Coastal Observation Technology System Project Summary – 2005

Project Name/Title: Enhancements to the Coastal Ocean Monitoring and Prediction System for West Florida: A Component of The Integrated Ocean Observing System

Date Project Initiated: August 1, 2004

Recipient Institution: University of South Florida

Primary Contact:

Mark E. Luther
USF College of Marine Science
140 Seventh Ave. S., St.
Petersburg, FL 33701
Phone: (727) 553-1528
Fax: (727) 553-1189
E-mail: *luther@marine.usf.edu*

Project Web site: *http://comps.marine.usf.edu*

Brief Project Summary: The project seeks to continue and expand efforts related to the Coastal Ocean Monitoring and Prediction System (COMPS) for the west coast of Florida. The project goals include maintaining and enhancing an existing coastal ocean observing system, analyzing the data being generated, and disseminating these data and their scientific findings in accordance with the protocols and understandings of the developing Integrated Ocean Observing System. Additionally, the program on *in-situ* data collection is strongly linked with a parallel modeling activity, and while the support for modeling is not requested in this proposal, the proposed work will be enriched by the modeling activities. For instance, siting arguments for new measurement locations are strongly tied to the modeling activities. All of the proposed data acquisitions will be available in near real time on the Internet, and the standards and protocols for sharing and archiving of data in support of the Integrated Ocean Observing Systems will be followed.

As with the present data collection efforts, all of the new real time data will also be made available to the NDBC and the NOS for QA/QC and for dissemination via the NOAA gateway. OpenDAP access is already in place for all data from the real time systems. The goal is to have transparent data sharing for use by a broad range of government, private sector, and academic users. PIs are also collaborating with a range of investigators both at and external to USF for the purposes of sharing results among a group of multidisciplinary scientists, all engaged in attempting to understand the material property distributions of the coastal ocean for numerous societal benefits. Some immediate applications are to the study of Harmful Algal Blooms (HABs) and other ecological concerns, and for providing assistance in maritime operations, emergency preparedness, hazardous spill response, and search and rescue. Data and information products from COMPS are served to these user communities via the web in NetCDF and OpenGIS formats. The project has led to partnerships in the emerging Regional Associations for

both the Southeastern and Gulf of Mexico regions. COMPS is and will remain a building block of the Regional Coastal Ocean Observing Systems for both these regions.

Accomplishments to Date:

- Increased volume of marine observations in the West Florida coastal ocean - Implemented CODAR array for surface current mapping
- Successfully developed and disseminated data and information products to end users for storm surge, maritime transportation, search and rescue, hazardous material spill response, and harmful algal bloom monitoring
- Implemented OpenDAP server for data, metadata, and data product exchange and distribution
- Established partnerships with educational outreach entities (COSEE, EDL, others)
- Established partnership with Everglades National Park to upgrade their water level observing sites with satellite telemetry, improved datum control, for inclusion into COMPS data stream

Current Year Objectives: Establish additional oceanographic and meteorological observing systems at critical locations along the West Florida coast to augment and enhance the exiting observing array on the West Florida Shelf including:

- Additional water level, meteorological and oceanographic observing sites with adequate spares
- A spare system for the Ocean-Atmosphere observing buoy off Panama City at the shelf break/head of Desoto Canyon presently under development
- A nearshore Ocean-Atmosphere observing site with waves off Naples, Florida
- Continue operation of Long-Range CODAR surface current radar sites at Cedar Key, Redington Beach, Venice (in collaboration with Mote Marine Lab and Rutgers), and Naples
- Acquire spares for exiting buoy and coastal stations
- Continue upgrades to the operational status of the USF water level station network to ensure the data meet NWLP standards for operation, data dissemination and vertical control.
- Continue the integration of data collection, processing, quality control and dissemination of water level and other observations taken by COMPS with the NWLP and the NDBC data systems.
- Develop wave model with forecast capability for coastal waters

Partners: NOAA Center for Operational Oceanographic Products and Services, NOAA National Data Buoy Center, NOAA National Weather Service, Tampa Bay Forecast Office, US Coast Guard, US Geological Survey, Florida Fish and Wildlife Conservation Commission/Fish and Wildlife Research Institute, Florida Department of Environmental Protection, Florida Institute of Oceanography, Pinellas County, Tampa Port Authority, Pasco County Office of Emergency Preparedness, Citrus County Office of Emergency Management, Lee County Office of Emergency Management, Hernando County Office of Emergency Management, City of Naples, City of Tarpon Springs, The Pier Aquarium, Campbell Park Elementary School, Everglades National Park